

PROGNOSTIC DISCUSSION FOR LONG-LEAD OUTLOOKS
CLIMATE PREDICTION CENTER NCEP
NATIONAL WEATHER SERVICE WASHINGTON DC
3 PM EST THURSDAY JAN 18 2001

BASIS AND SUMMARY OF THE CURRENT LONG-LEAD OUTLOOK

THESE OUTLOOKS REFLECT THE EXPECTED U.S. CLIMATE ANOMALIES FOR WEAK TO MODERATE COLD ENSO CONDITIONS FOR FMA - TRENDING TO NEUTRAL BY AMJ. TROPICAL INTRA-SEASONAL (MJO) ACTIVITY HAS BEEN STRONG SO FAR THIS SEASON AND IS EXPECTED CONTINUE INTO THE SPRING. AN ACTIVE MJO CAN INFLUENCE MID-LATITUDE CIRCULATION AND ENHANCE THE VARIABILITY IN CLIMATE ANOMALIES ON WEEKLY TO MONTHLY TIME SCALES.

THE 1961-90 NORMALS ARE STILL IN USE - MAKING IT CONSIDERABLY LESS LIKELY TO REACH THE BELOW NORMAL TEMPERATURE CATEGORY IN MANY REGIONS AND SEASONS WHEN TODAY'S CLIMATE IS COMPARED TO THE GENERALLY COOLER CLIMATE OF THE 1960S AND 70S. SO THIS SET OF OUTLOOKS HAS A SKEW TOWARD WARMER THAN NORMAL TEMPERATURES.

THE FMA 2001 FORECAST REFLECTS THE U.S. CLIMATE ANOMALIES EXPECTED IN A WEAKENING ENSO COLD EVENT. STATISTICAL PREDICTIONS OF NINO 3.4 INDICATE THE POSSIBILITY OF A WARM ENSO EVENT BY WINTER 2001/2002. THIS IS THE REASONING BEHIND THE TEMPERATURE AND PRECIPITATION FORECASTS FOR THE THREE LONGEST LEADS.

CURRENT ATMOSPHERIC AND OCEANIC CONDITIONS

ATMOSPHERIC AND OCEANIC INDICES OF ENSO CONTINUE TO SHOW WEAK TO MODERATE COLD PHASE (LA NINA) CONDITIONS. PACIFIC SSTs NEAR THE EQUATOR ARE AROUND 1 DEGREE C BELOW NORMAL SSTs FROM THE SOUTH AMERICAN COAST TO THE DATE LINE - WITH BELOW NORMAL TEMPERATURES EXTENDING FURTHER WESTWARD TO AROUND 160E. THE TRADE WINDS ARE ONCE AGAIN STRONGER THAN NORMAL THROUGHOUT MUCH OF THE TROPICAL PACIFIC - FURTHER INDICATING THAT LA NINA CONDITIONS PREDOMINATE IN THE EAST CENTRAL PACIFIC.

PROGNOSTIC DISCUSSION OF SST FORECASTS

THE NCEP DYNAMIC AND STATISTICAL MODELS (THE COUPLE MODEL, CONSTRUCTED ANALOG (CA) METHOD AND CANONICAL CORRELATION ANALYSIS (CCA)) CONTINUE TO PREDICT SLIGHTLY BELOW NORMAL NINO 3.4 REGION (5N TO 5S AND 120-170W) SSTs THROUGH MAM 2001. ALL MODELS CROSS ZERO ANOMALY BETWEEN MAM AND AMJ AND THEN FORECAST VARYING DEGREES OF POSITIVE ANOMALIES THROUGH FMA 2002.

THE CA MODEL HOLDS TEMPERATURES CLOSE TO NEAR-NORMAL THROUGH THE END OF THE YEAR WHILE THE COUPLED MODEL AND CCA INDICATE A WEAK WARM PHASE OF ENSO MAY DEVELOP BY EARLY FALL. A CONSOLIDATION FORECAST BASED ON THE PAST PERFORMANCE OF THE THREE MODELS INDICATES THAT NINO 3.4 SST ANOMALIES WILL AVERAGE BELOW ZERO IN FMA -- INCREASE TO ZERO BY AMJ AND THEN CONTINUE TO INCREASE BEFORE LEVELING OFF AT AROUND .75 DEGREES C BY LATE SUMMER.

FORECASTS FROM THESE TOOLS FOR NEXT SUMMER HAVE BEEN TRENDING TOWARD COOLER TEMPERATURES AS THE MODELS ARE UPDATED WITH MORE RECENT DATA EACH MONTH - SO IT IS LIKELY THAT THE BEST FORECAST FOR ENSO FOR NEXT SUMMER AND INTO THE FALL WOULD BE FOR THE OBSERVATION TO BE ON THE LOWER END OF THE FORECAST SPREAD - SO NEUTRAL CONDITIONS ARE ANTICIPATED FOR NEXT SUMMER -- AND EITHER NEUTRAL OR WEAK WARM ENSO CONDITIONS ARE THE BEST CHOICE FOR WINTER 2001-2002.

PROGNOSTIC TOOLS USED FOR U.S. TEMPERATURE AND PRECIPITATION OUTLOOK

THE CCA AND SMLR FORECASTS WERE CONSULTED AT ALL LEAD TIMES. THE CMP FORECAST AGREED WELL WITH THE STATISTICAL MODELS AND CONSIDERABLY INFLUENCED THE FORECAST FOR THE FIRST FOUR LEAD TIMES. COLD EVENT ENSO COMPOSITES WERE ALSO USED FOR FMA AND MAM. WARM EVENT COMPOSITES WERE BLENDED INTO THE FORECAST IN A SMALL

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PROPORTION FOR DJF 2001/02 THROUGH FMA 2002 TO REFLECT THE CHANCES FOR A WEAK WARM EVENT NEXT YEAR.

PROGNOSTIC DISCUSSION OF OUTLOOKS - FMA 2001 TO FMA 2002.

THE FORECAST FOR FMA 2001 CALLS FOR WARMER THAN NORMAL TEMPERATURES ALONG THE SOUTHERN TIER OF STATES. NEAR NORMAL TEMPERATURES ARE INDICATED FOR THE PACIFIC NORTHWEST BECAUSE TRENDS THERE FOR WARMER THAN NORMAL TEMPERATURES COUNTERACT THE TENDENCY FOR TEMPERATURES TO BE BELOW NORMAL IN LATE WINTER DURING COLD ENSO EVENTS. WHEN TAKEN TOGETHER - THE SEASONAL AVERAGE IS LESS LIKELY TO BE IN EITHER EXTREME (ABOVE OR BELOW) THAN FOR NEAR NORMAL TEMPERATURES. BELOW NORMAL TEMPERATURES FOR MICHIGAN AND IN SOUTHERN ALASKA ARE FROM THE SLMR FORECAST AND LA NINA COMPOSITES. PRECIPITATION PREDICTIONS FOR DRY CONDITIONS IN FLORIDA AND THE SOUTHWEST REFLECT THE LA NINA COMPOSITES AND CMP FORECAST - AS WELL AS WEAK INDICATIONS FROM BOTH CCA AND SMLR. THE CMP PREDICTS ABOVE MEDIAN PRECIPITATION FOR THE ALASKAN PANHANDLE.

WITH ENSO CONDITIONS PREDICTED TO BE NEAR-NEUTRAL FOR AMJ THROUGH FALL - THE FORECAST FOR THE SUMMER AND FALL LARGELY REFLECTS THE LONG TERM TRENDS TOWARD ABOVE NORMAL TEMPERATURES OVER THE SOUTHERN HALF OF THE LOWER 48 STATES. PROBABILITIES FOR ABOVE NORMAL TEMPERATURES ARE HIGHEST IN THE SOUTH AND SOUTHWEST WHERE YEAR-TO-YEAR VARIABILITY IS SMALL IN RELATION TO THE TRENDS. CLIMATOLOGICAL ODDS ARE FAVORED OVER MOST OF THE NORTHERN AND CENTRAL PARTS OF THE COUNTRY - UNTIL JJA AND JAS WHEN OCN SLIGHTLY FAVORS BELOW NORMAL OVER A PORTION OF THE MIDWEST.

POSITIVE TEMPERATURE ANOMALIES FROM OCN EXTEND NORTH ALONG THE EASTERN SEABOARD DURING MJJ AND JJA. TEMPERATURES OVER SOUTHERN ALASKA ARE EXPECTED TO BE BELOW NORMAL THROUGH MAM 2001 DUE TO RESIDUAL LA NINA EFFECTS (MOST INDICATED ON THE CCA FORECAST). OCN INDICATES STRONG WARMING TRENDS IN ALASKA IN THE SPRING AND EARLY SUMMER. THIS IS SUPPORTED BY THE CCA PREDICTION FOR THE INTERIOR AREAS. PRECIPITATION TRENDS STILL FAVOR RELATIVELY WET SPRING TIME CONDITIONS IN THE PACIFIC NORTHWEST - AND THIS IS SUPPORTED BY CCA.

THE FORECAST FOR JAS 2001 THROUGH DJF 2001/2002 SHOW WARMING TRENDS FOR MUCH OF THE WEST - AND IN PORTIONS OF THE SOUTHERN STATES - DIMINISHING FROM JAS TO OND. CCA INDICATES BELOW MEDIAN PRECIPITATION IN JAS AND ASO FOR PORTIONS OF THE PACIFIC NORTHWEST AND THE GREAT BASIN - WITH SOME SUPPORT FROM OCN.

THE FORECAST FOR NDJ 2001/02 THROUGH FMA 2002 REFLECTS THE PROBABILITIES DERIVED FROM TRENDS BUT SLIGHTLY ADJUSTED BY THE FORECAST THAT WARM ENSO CONDITIONS ARE SLIGHTLY MORE LIKELY THAN NEUTRAL CONDITIONS - AND CONTINUED COLD EVENT CONDITIONS ARE VERY UNLIKELY. CONFIDENT PREDICTION THAT ENSO WILL BE EITHER NEUTRAL OR WARM INCREASES THE LIKELIHOOD OF ABOVE NORMAL TEMPERATURES OVER MUCH OF THE NORTHERN AND WESTERN PORTIONS OF THE COUNTRY - BUT DIMINISHES THE PROBABILITY OF ABOVE NORMAL OVER THE GULF COAST. A NEUTRAL-TO-WARM ENSO INCREASES THE CHANCES FOR ABOVE MEDIAN PRECIPITATION OVER MUCH OF THE SOUTHERN U.S. - HOWEVER THE PROBABILITY SHIFT IS VERY SMALL - INDICATING A HIGH DEGREE OF UNCERTAINTY.

FOR A DESCRIPTION OF THE STANDARD FORECAST TOOLS - THEIR SKILL - AND THE FORECAST FORMAT PLEASE SEE OUR WEB PAGE AT:
[HTTP://WWW.CPC.NCEP.NOAA.GOV/PRODUCTS/PREDICTIONS/MULTI-SEASON/13_SEASONAL_OUTLOOKS/TOOLS](http://www.cpc.ncep.noaa.gov/products/predictions/multi-season/13_seasonal_outlooks/tools)

NOTE - THESE CLIMATE OUTLOOKS ARE INTENDED FOR USE PRIOR TO THE START OF THEIR VALID PERIODS. WITHIN ANY GIVEN VALID PERIOD OBSERVATIONS AND SHORT AND MEDIUM RANGE FORECASTS SHOULD BE CONSULTED. THIS SET OF OUTLOOKS WILL BE SUPERSEDED BY THE ISSUANCE OF THE NEW SET NEXT MONTH ON THURSDAY FEBRUARY 15 2001.

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